

What is claimed is:

1 A cell disposal avoidance system in a buffer, said buffer including category buffers classified by category in an ATM switch, said category buffers each for storing a cell, said buffer reading out said cell, said system comprising:

a weight representing the priority that determines the reading rate for each of said category buffers at a cell reading time;

a reader for laying out allocation in a time division mode according to said priority mode, said allocation being read out of each of said category buffers when a cell in a buffer is read out, and reading out said allocation in a round-robin format;

a detector for detecting cell disposal of said buffer; and

a controller for changing to higher weight of the priority mode in a buffer in a cell disposal state detected by said detector.

2 The cell disposal avoidance system defined in Claim 1, further comprising a first resetting unit for resetting a weight representing the priority mode of the buffer when the cell disposal of said buffer stopped.

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being read out of each of said category buffers when
a cell in a buffer is read out, and reading out said
allocation in a round-robin format;

a detector for detecting the fact that the capacity of
said buffer exceeds a first threshold; and
a first controller for changing to a higher value the
weight of a priority mode of a buffer which exceeds
the threshold detected by said detector.

6 The cell disposal avoidance system defined in Claim 5,
further comprising, when the capacity of a buffer
exceeding said first threshold reaches a second threshold,
a first resetting unit for resetting a weight representing
the priority mode of said buffer.

7 The cell disposal avoidance system defined in Claim 5,
further comprising, when the capacity of a buffer
exceeding said first threshold reaches a third threshold
value being less than said first threshold, a second
controller for setting the priority mode of said buffer to
a weight lower than that of said first controller.

8 The cell disposal avoidance system defined in Claim 6,
further comprising, when the capacity of a buffer
exceeding said first threshold reaches a third threshold

value being less than said first threshold, a second controller for setting the priority mode of said buffer to a weight lower than that of said first controller.

- 5 9 The cell disposal avoidance system defined in Claim 5, wherein a priority mode changed by said first or second controller and an initial priority mode before changing are informed a maintenance terminal.
- 10 10 The cell disposal avoidance system defined in Claim 7, wherein a priority mode changed by said first or second controller and an initial priority mode before changing are informed a maintenance terminal.
- 15 11 The cell disposal avoidance system defined in Claim 8, wherein a priority mode changed by said first or second controller and an initial priority mode before changing are informed a maintenance terminal.
- 20 12 The cell disposal avoidance system defined in Claim 5, further comprising:
 an informer for informing said maintenance terminal of
 the fact that the capacity of said buffer exceeding
 said first threshold reaches said second threshold;
25 and

a second resetting unit for resetting to a weight representing the priority mode of a buffer exceeding said first threshold, by a command input by said informer.

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13 The cell disposal avoidance system defined in Claim 1, wherein said category represents the type of QoS class in accordance with a header within an area of said cell and a path set in the area.

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14 The cell disposal avoidance system defined in Claim 5, wherein said category represents the type of QoS class in accordance with a header within an area of said cell and a path set in the area.

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15 A cell disposal avoidance method suitable in a buffer, said buffer including category buffers classified by category in an ATM switch, said category buffers each for storing a cell, said buffer reading out said cell, said method comprising the steps of:

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setting to a higher level a cell reading priority of a buffer in which cell disposal occurs in congestion of said buffer; and

changing a period during which cells are read from a buffer in a cell disposal state, in accordance with a

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priority allocated to each of said category buffers,
to speed the reading rate of said buffer.

16 The cell disposal avoidance method defined in Claim 15,
further comprising the steps of:

when said buffer in which cell disposal occurs stops
cell disposal, resetting the cell reading priority of
said buffer to an initial value; and

resetting a period during which a cell is read out of
each of said category buffers to an initial state,
according to a priority allocated to each of said
category buffers.

17 The cell disposal avoidance method defined in Claim 15,
further comprising the step of, when cell disposal occurs
in a category buffer, informing a maintenance terminal of
a priority after change of said category buffer and a
priority with an initial value.

18 The cell disposal avoidance method defined in Claim 15,
further comprising the step of, when a buffer in a cell
disposal occurrence state stops its cell disposal,
informing a maintenance terminal of a cease of the cell
disposal.

19 The cell disposal avoidance method defined in Claim 15, further comprising the steps of:

when said maintenance terminal inputs a command for resetting to an initial value after said maintenance terminal has received information on a cease of cell disposal, resetting to an initial value a cell reading priority of said buffer in a cell disposal halt state; and

resetting a period during which a cell is read out of each of said category buffers, to an initial state, in accordance with a priority allocated to each of said category buffers.

20 A cell disposal avoidance method suitable for a buffer, said buffer including category buffers classified by category in an ATM switch, said category buffers each for storing a cell, said buffer reading out said cell, said method comprising the steps of:

when the capacity of said buffer exceeds a first threshold, setting to a higher level a cell reading priority of said buffer; and

changing a period during which a cell is read out of a buffer exceeding said first threshold, in accordance with a priority allocated to each of said category buffers, to speed a reading speed of said buffer in a

cell disposal state.

21 The cell disposal avoidance method defined in Claim 20, further comprising the steps of:

5 when it is detected that the capacity of the buffer exceeding said first threshold reaches a second threshold, resetting the cell reading priority of said buffer to an initial value; and
10 resetting a period during which a cell is read out of each of said category buffers, to an original state, in accordance with a priority allocated to each of said category buffers.

15 22 The cell disposal avoidance system defined in Claim 20, further comprising the step of, when the capacity of a buffer exceeding said first threshold reaches a third threshold being lower than said first threshold, setting the priority mode of said buffer to a threshold lower than a value set when the capacity of said buffer exceeds said
20 first threshold.

23 The cell disposal avoidance system defined in Claim 21, further comprising the step of, when the capacity of a buffer exceeding said first threshold reaches a third
25 threshold being lower than said first threshold, setting

the priority mode of said buffer to a threshold lower than a value set when the capacity of said buffer exceeds said first threshold.

5 24 The cell disposal avoidance system defined in Claim 20,
further comprising the step of, when a category buffer
exceeds said first threshold, informing a maintenance
terminal of a priority after change of said buffer which
has exceeded said first threshold and a priority with an
10 initial value.

25 The cell disposal avoidance system defined in Claim 20,
further comprising the step of, when a buffer exceeding
said first threshold stops exceeding a second threshold,
15 informing a maintenance terminal of the fact that said
buffer has ceased cell disposal.

26 The cell disposal avoidance system defined in Claim 25,
further comprising the steps of:

20 when said maintenance terminal inputs a command for
resetting to an initial value after said maintenance
terminal has received information on a cease of
exceeding said second threshold, resetting a cell
reading priority of a buffer which has exceeded said
25 threshold, to an initial value; and

resetting a period during which a cell is read out of each of said category buffers, to an original value, in accordance with a priority of each of said category buffers.

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27 The cell disposal avoidance system defined in Claim 15, wherein said category represents the type of QoS class in accordance with a header within an area of said cell and a path set in the area.

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28 The cell disposal avoidance system defined in Claim 20, wherein said category represents the type of QoS class in accordance with a header within an area of said cell and a path set in the area.

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